

2. Housing

a. No-Action Alternative

■ Probable Indirect and Cumulative Impacts

No impacts to the existing housing characteristics are expected at Sunflower should the U.S. Army retain the facility. Housing needs would not be impacted directly or indirectly from the continued operation of existing leases or the continued remediation of the property.

b. Disposal Alternative

■ Probable Indirect and Cumulative Impacts

The higher intensity development scenario includes some residential development within the first five years following disposal. Potential indirect housing impacts at Sunflower under this scenario would include development of 50 acres of land for single-family residential units. At a density of three units per acre, the resulting development could potentially include 150 units. This increase in housing would not be expected to significantly impact the housing characteristics of the property or surrounding areas. This is primarily due to the low vacancy rate for Johnson County (2.00 percent homeowners and 8.70 percent rental). The added residential development would provide beneficial effects on the increased demand for housing from the overall development.

Conversely, there could be additional need for residential development to accommodate the increase in future permanent employees from the higher intensity development scenario. The City of DeSoto has a significant amount of platted but undeveloped residential parcels that will eventually contain single-family homes. With the gradual redevelopment of Sunflower, the surrounding communities such as DeSoto should be able to accommodate the initial influx of new residents. Additionally, it is reasonable to assume that a portion of the workers at the public entertainment complex would most likely commute from nearby universities and colleges, as well as surrounding communities rather than relocate to the immediate area. This assumption is based on the seasonal nature of the public entertainment complex jobs and the population size located within commuting distance of Sunflower. This employment scenario would contribute to preventing housing needs from rising faster than the community could accommodate them.

Housing cost characteristics should also not be significantly affected in the five-year development projections. With a large supply of residential lots both on and around Sunflower and in and around DeSoto, prices should remain relatively stable.

■ Mitigation

Other than using deed restrictions to prohibit residential use on appropriate parcels pending environmental remediation, no mitigation measures are considered warranted. The *Johnson County Conceptual Land Use Plan*, in addition to zoning and building requirements, should address most housing issues.

3. Land Use and Zoning

Development subsequent to disposal will be subject to Johnson County zoning regulations. Zoning is utilized to manage land use so that developmental changes in the community can be controlled and coordinated. This prevents incompatible land uses as well as burdens on public services. The *Johnson County Conceptual Land Use Plan* contains a planned community concept for Sunflower allowing many different uses which

are appropriate, compatible and coordinated with adjoining uses. Controlled development of the property also assures adequate land is reserved for park and open space.

Land use options for Sunflower, regardless of the disposal option, would be driven by past uses of the facility. Over the five-year projection period, developments would most likely occur in areas of limited contamination and limited past developments. Additionally, some of the established tenants might remain on the property.

a. No-Action Alternative

■ **Probable Indirect and Cumulative Impacts**

As long as it is a federal facility, Johnson County and other local land use authorities cannot control development at Sunflower. Under the no action alternative current Facility Use Agreements and other unplanned industrial use of Sunflower will continue and the local community will be deprived of use control and the economic benefits that would result from private ownership.

b. Disposal Alternative

■ **Probable Indirect and Cumulative Impacts**

Both the high and low intensity development scenarios would be coordinated through the *Johnson County Conceptual Land Use Plan* in order to prevent significant adverse impacts to surrounding community zoning districts and established land uses. Additionally, subjecting Sunflower to local planning control would likely control additional development of the property for manufacturing and industrial uses that Johnson County has concluded would not provide the same beneficial impacts to surrounding areas as would its *Conceptual Land Use Plan*.

The increase in residential development under the higher intensity development scenario would provide a beneficial increase in available housing to support other land uses requiring increases in permanent workers to the area. Additionally, a 1986 Johnson County initiative for developing a County-wide Streamway Park System has identified Kill Creek as a potential corridor for park development. Protected green space around the east, south, and western property boundaries would adjoin the 830-acre Kill Creek Regional Park, purchased in 1988. These additions to the county and local parks systems would provide significant beneficial impacts under either development scenario or disposal option.

■ **Mitigation**

No mitigation is necessary. The *Johnson County Conceptual Land Use Plan* and subsequent zoning would prevent adverse impacts and provide beneficial impacts to Sunflower and surrounding communities.

4. Community Services

a. No-Action Alternative

■ **Probable Indirect and Cumulative Impacts**

Many public service institutions, including public schools, colleges and universities, fire departments, and park departments have expressed interest in acquiring acreage within Sunflower in anticipation of the proposed disposal. See Exhibit I-2. Additional land acquired by these institutions would better enable them

to meet the demands imposed by the growing Johnson County population, and/or improve upon services provided to the existing population. The No-Action Alternative would preclude expeditious property transfer to these local governments and non-profit organizations.

b. Disposal Alternative

■ **Probable Direct, Indirect and Cumulative Impacts**

The only direct impact that could result from the Disposal Alternative is the transfer of lands to be used for parks/open spaces and other community services purposes. This would be a beneficial impact that does not require mitigation.

Significant impacts to community services would not be anticipated as a result of controlled development and any population influx at Sunflower. Police departments, public school districts, and parks and recreation facilities are expanding to meet demands imposed by ongoing population increases. In the context of expected growth regardless of Sunflower, Johnson County anticipates that any population increase subsequent to disposal of Sunflower would be absorbed without placing significant added stress on these or other community services.

Because the size of the Johnson County Sheriff's Department is and has been expanding with the increase in county population, no impacts associated with police protection are anticipated. Fire protection services for Sunflower are currently provided by private contractor. Any portion of the property that is disposed of will require fire protection by Rural Fire District No. 3 and service agreements must be negotiated between the fire department, local and county officials, and the owners of any transferred Sunflower property. Because both Unified School District 232 and Eudora Unified School District 491 are building and/or planning sufficient new facilities, no impacts to public schooling are anticipated.

To achieve the goal of 28 acres of parkland per 1,000 county residents discussed in Section III of this EA, the County has expressed an interest in obtaining 3,500 acres of land surrounding Spoon, Kill and Captain Creeks and land along the southern boundary of Sunflower. Similarly, the City of DeSoto has expressed an interest in acquiring 160 acres to enlarge an existing city park. These are beneficial impacts that would only be realized under the Disposal Alternative. Negative impacts on medical services are not anticipated. The Disposal Alternative is not anticipated to cause significant negative impacts on community services. However, beneficial impacts would occur through any public benefit discount conveyances providing land for parks, utility, educational and other community services.

■ **Mitigation**

No mitigation measures related to community services would appear to be warranted at this time.

5. Utility Services

a. No-Action Alternative

■ **Probable Indirect and Cumulative Impacts**

Under the No-Action Alternative, there would be no impact to water services; wastewater and existing treatment systems; natural gas and existing supply systems; telecommunications services and existing systems; electric power and existing systems; or solid waste and existing landfills.

b. Disposal Alternative

■ Probable Indirect and Cumulative Impacts

Under the higher intensity development scenario, total water demand is estimated to be 2.6 mgd. The existing capacity of the Sunflower treated water system is approximately 4.3 mgd. With the installation of service lines, the existing system could serve all development under the higher intensity development scenario.

Under the higher intensity development scenario, demand for treatment of wastewater is estimated to be approximately 1.6 mgd. The capacity of the existing wastewater treatment system on Sunflower is between 250,000 and 500,000 gpd, considerably lower than estimated demand under the higher intensity development scenario. The DeSoto system has additional capacity of about 400,000 gpd and could possibly be expanded by an additional 400,000 gpd. Regardless of whether the DeSoto system is expanded, additional wastewater treatment facilities would probably be required under the higher intensity development scenario.

Under the lower intensity development scenario, demand for treated wastewater is estimated to be less than 400,000 gpd. This could be handled by the existing Sunflower system or in combination with the DeSoto system. During flooding periods, however, the systems would probably become overloaded.

Sufficient capacity exists in the natural gas transmission line directly to the east of Sunflower to serve both the higher and lower intensity development scenarios. New underground service lines may need to be installed to bring sufficient natural gas from the transmission line to any new points of use created by future redevelopment.

Under both the lower intensity and higher intensity development scenarios, existing fiber optic and copper cabling services are adequate to accommodate increased demand. Additional service and/or distribution cables may need to be installed, either above or underground, to connect to new service destinations associated with any new development.

Demand under the higher intensity development scenario is estimated to be 40 million volt amperes (MVA). The existing transmission lines serving Sunflower are sufficient to serve this level of demand. The existing substation on Sunflower is also sufficient to serve this demand, but has no backup or reserve capacity. Additional transformer capacity from between 20 to 40 MVA may be needed, depending on life safety and other requirements.

Solid waste disposal requirements during construction would be temporary and existing landfills are capable of receiving this amount of solid waste without major impact to their operations.

■ Mitigation

No mitigation is necessary. Development which may bring demand for additional utility services will provide the fiscal benefits needed to fund them through increased tax base and employment.

6. Transportation Systems

Traffic analyses for the high and low intensity development scenarios were performed. The design year for determining traffic impacts is the year 2004. Traffic operations for the No-Action Alternative for the design year will be compared to the traffic operations for the two different development scenarios to assess the level of probable environmental impact for the disposal options.

a. No-Action Alternative**■ Probable Indirect and Cumulative Impacts**

The Kansas Department of Transportation (KDOT) and the Johnson County Department of Public Works currently do not have any highway improvements programmed for the roadways near the Sunflower site for the next five years. Therefore, for the No-Action Alternative for the year 2004, it is assumed that no changes to the existing roadway system would be made. Analysis of the No-Action Alternative was conducted by determining background traffic growth and investigating the level of service (LOS) for traffic operations for the year 2004. Traffic growth factors developed from KDOT automatic traffic recording stations for the period 1993 to 1997 were applied to existing traffic volumes to determine 2004 projected traffic volumes. KDOT traffic growth factors are categorized by highway type (Urban Interstate, Rural Interstate, Other Urban State Highway, Other Rural State Highway, etc.). The Rural Interstate growth factor (five percent per year) was used to project average daily traffic (ADT) for State Highway K-10, since this growth factor best matched recent historical ADT data for the sections of K-10 near Sunflower. The Other Urban growth factor (three percent per year) was used to project ADT on the other major roads near Sunflower. Historical ADT data for the roadways indicates that, with the exception of K-10, ADT's for most roadways near Sunflower have not changed or have shown a decrease in recent years.

Since existing traffic volumes represent 1998 data, the annual growth factors were compounded for a period of six years to determine traffic projections for 2004. This resulted in a growth factor of 1.340 for K-10 traffic and a growth factor of 1.194 for the other roadways. These growth factors were applied to the existing ADT's, and the resulting projected No-Action Alternative ADT's are shown in Exhibit IV-5.

Average weekday AM and PM peak hour traffic volumes were projected for the nine key intersections by applying the 1.194 growth factor to the existing AM and PM peak hour traffic volumes. The 2004 AM and PM peak hour traffic volumes for the No-Action Alternative are shown in Exhibit IV-6.

Traffic operations for the No-Action Alternative were analyzed by determining the LOS at the nine key intersections using the AM and PM peak traffic volumes from Exhibit IV-6. The results of the LOS analysis are shown in Exhibit IV-7. None of the LOS exceed LOS C, which means no traffic problems are anticipated for the year 2004 for the No-Action Alternative. Comparing the LOS for the No-Action Alternative to the LOS for existing conditions indicates that no changes to the LOS are expected at eight of the nine key intersections. The only changes to the LOS are expected at the K-10 WB Ramps/Lexington Avenue intersection, where the LOS is predicted to go from LOS B to LOS C for the Eastbound approach during the PM peak hour and for the Westbound approach during the AM and PM peak hour.

b. Disposal Alternative**■ Probable Indirect and Cumulative Impacts**

Traffic estimates for the design year of 2004 for each scenario were developed using a two part process. The first part of the process provides background traffic growth expected for the area, and the second part estimates traffic generated from the portion of Sunflower anticipated to be built-out by the year 2004. Background traffic growth factors for both development scenarios were assumed to be the same as the growth factors used for the No-Action Alternative. Therefore, the traffic volumes indicated for the No-Action Alternative also represent the background traffic volumes for both development scenarios.

EXHIBIT IV-5

AVERAGE DAILY TRAFFIC (ADT) VOLUMES FOR THE YEAR 2004

Location	Projected ADT		
	2004 No-Action Alternative	2004 Lower Intensity Dev.	2004 Higher Intensity Dev.
K-10 (East of Lexington Ave.)	33,700	36,200	59,500
K-10 (East of Edgerton Rd.)	31,200	31,800	34,100
K-10 (East of Evening Star Rd.)	31,400	32,000	34,300
K-10 (West of Evening Star Rd.)	35,100	36,600	40,800
Lexington Ave. (North of K-10)	4,960	5,340	6,170
Lexington Ave. (South of K-10)	3,060	6,380	13,600
Lexington Ave. (South of 95 th St.)	1,960	5,720	13,900
Edgerton Rd. (North of K-10)	1,040	1,090	1,210
Edgerton Rd. (North of 103 rd St.)	130	290	650
Edgerton Rd. (South of 143 rd St.)	330	330	330
Evening Star Rd. (North of K-10)	490	490	490
Evening Star Rd. (South of K-10)	670	1,760	4,120
Evening Star Rd. (South of 103 rd St.)	180	180	180
103 rd St. (East of Evening Star Rd.)	750	2,110	5,060
103 rd St. (West of Evening Star Rd.)	660	930	1,520
143 rd St. (East of Edgerton Rd.)	450	450	450
143 rd St. (West of Edgerton Rd.)	570	570	570

Source: Dames & Moore/BRW, January, 1999

The Johnson County Department of Planning, Development, and Codes was consulted regarding the type and amount of development that may be expected on Sunflower by the year 2004. Johnson County provided a range of anticipated development for various land uses. For the traffic analysis, the low end of the Johnson County development assumptions was used for the lower intensity development scenario, and the high end, including a theme park/public entertainment land use, was used for the higher intensity development scenario. It is expected that most if not all development at Sunflower in the next five years will occur at the north end of the property.

Using the Johnson County development assumptions, traffic generation estimates were developed for the year 2004. With the exception of the public entertainment use, trip generation rates from *Trip Generation*, 6th edition, Institute of Transportation Engineers (ITE), 1997, were used to calculate traffic volumes for each type of land use. The trip generation rates utilized for the analysis are shown in Exhibit IV-8. Trip generation estimates for the public entertainment use were based on information provided by Johnson County and the *Environmental Assessment for Construction and Operation of the Wonderful World of Oz, Phase I* (not a NEPA EA, but prepared merely to identify potential environmental issues).

The trip generation rates from Exhibit IV-8 were applied to the development acreages for both development scenarios and the results are shown in Exhibit IV-9.

NO ACTION ALTERNATIVE 2004 WEEKDAY AM AND PM PEAK HOUR TRAFFIC VOLUMES EXHIBIT IV-6

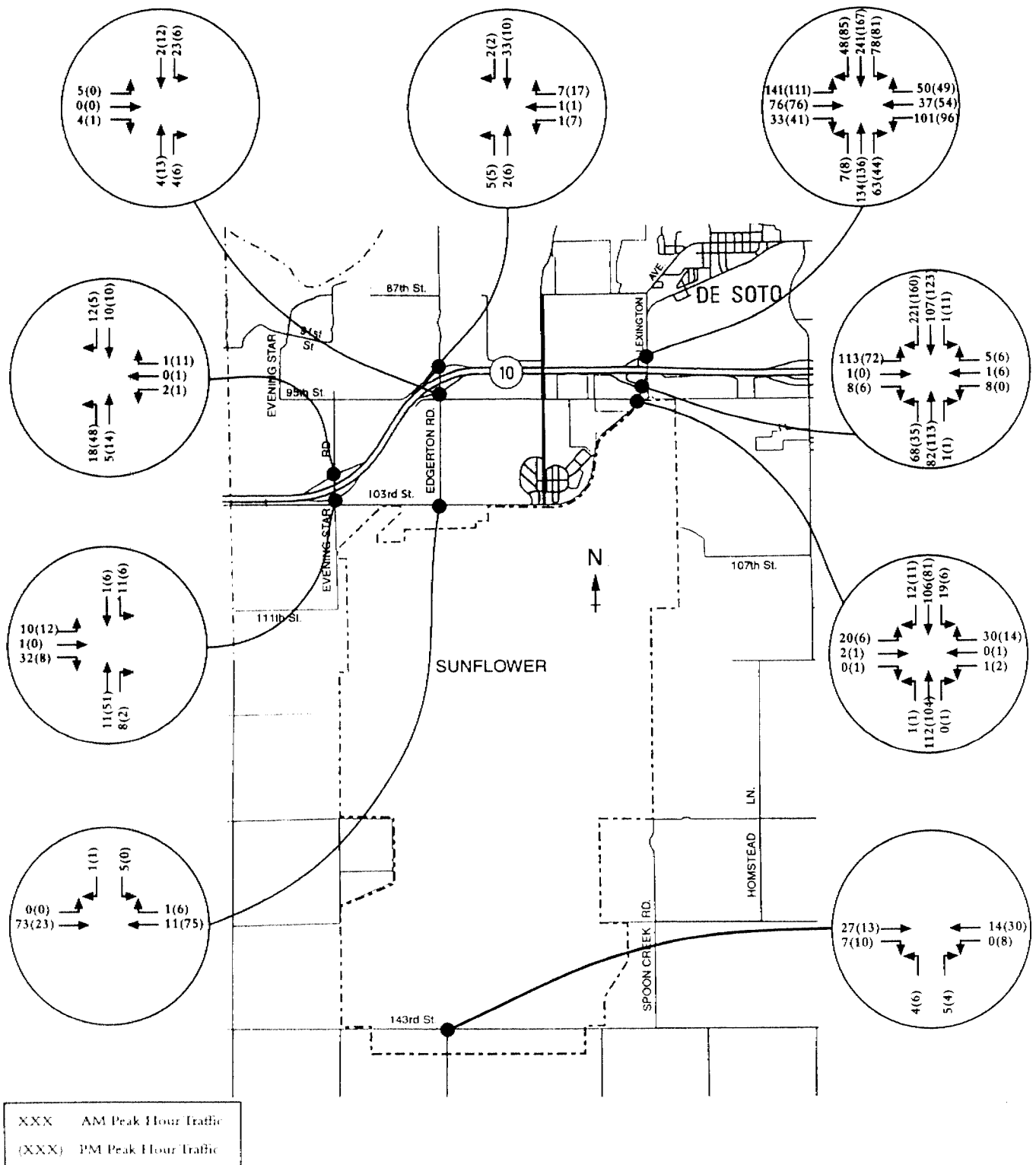


EXHIBIT IV-7
LEVEL OF SERVICE (LOS) ANALYSIS
NO-ACTION ALTERNATIVE
2004 WEEKDAY AM AND PM PEAK HOUR TRAFFIC

Location	AM Peak Hour LOS	PM Peak Hour LOS
<u>K-10 WB Ramps & Lexington Avenue:</u>		
EB approach	C	C
WB approach	C	C
NB left turn	A	A
SB left turn	A	A
<u>K-10 EB Ramps & Lexington Avenue:</u>		
EB approach	B	B
WB approach	A	A
NB left turn	A	A
SB left turn	A	A
<u>K-10 WB Ramp & Edgerton Road:</u>		
WB approach	A	A
NB left turn	A	A
<u>K-10 EB Ramp & Edgerton Road:</u>		
EB approach	A	A
SB left turn	A	A
<u>K-10 WB Ramp & Evening Star Road:</u>		
WB approach	A	A
NB left turn	A	A
<u>K-10 EB Ramp & Evening Star Road:</u>		
EB approach	A	A
SB left turn	A	A
<u>Lexington Avenue & 95th Street:</u>		
EB approach	A	A
WB approach	A	A
NB left turn	A	A
SB left turn	A	A
<u>Edgerton Road & 103rd Street:</u>		
SB approach	A	A
EB left turn	A	A
<u>Edgerton Road & 143rd Street:</u>		
NB approach	A	A
WB left turn	A	A

Source: Dames & Moore/BRW, December 1998.

EXHIBIT IV-8 TRIP GENERATION RATES

Johnson County Land Use Description	ITE Land Use Description	ITE Code	Weekday ADT (trip/acre)	AM Peak Hour (trip/acre)			PM Peak Hour (trip/acre)		
				Enter	Exit	Total	Enter	Exit	Total
Single Family Residential	Single Family Detached Housing	210	28.71 (1)	0.563 (1)	1.688 (1)	2.25 (1)	1.939 (1)	1.091 (1)	3.03 (1)
Limited Highway Commercial	Shopping Center	820	280.44 (2)	4.105 (2)	2.625 (2)	6.73 (2)	11.73 (2)	12.71 (2)	24.44 (2)
Kansas State University	Research and Development Center	760	79.61	14.09	2.683	16.77	1.853	13.59	15.44
(Light) Industrial Space	General Light Industrial	110	51.80	6.233	1.277	7.51	1.597	5.663	7.26
Business Park	Business Park	770	149.79	16.03	2.829	18.86	3.368	13.47	16.84

- (1) Trip/acre rate derived by multiplying ITE dwelling unit rate by three. Per Johnson County, it is assumed that there will be three dwelling units per acre.
- (2) Trip/acre rate derived by multiplying ITE 1000sf gla rate by 6.534. It was assumed that building coverage per acre will be approximately 15%.

Source: Institute of Transportation Engineers, *Trip Generation*, 6th edition, 1997;
Johnson County Development Assumptions Memorandum, December 1998.

Lower Intensity Development Scenario

Under the lower intensity development scenario, no changes to the existing roadway system near Sunflower were assumed for the traffic analysis. The estimated Sunflower site-generated traffic was assigned to the roadway network using the directional distribution percentages shown in Exhibit IV-10. This distribution of traffic was determined by considering the existing traffic patterns in the area, assumptions provided by Johnson County, and engineering judgment.

The Sunflower site-generated traffic was added to the traffic for the No-Action Alternative to produce the year 2004 traffic for the lower intensity development scenario. The average daily traffic (ADT) for the nearby roadways for the lower intensity development scenario is shown in Exhibit IV-5. The AM and PM peak hour traffic for the nine key intersections is shown in Exhibit IV-11.

To determine traffic operation changes at the nine key intersections, a level of service (LOS) analysis was performed for the development scenario using the AM and PM peak hour traffic volumes from Exhibit IV-11. The results of the LOS analysis are indicated in Exhibit IV-12.

Comparing the LOS analysis for the No-Action Alternative to the LOS analysis for the lower intensity development scenario indicates that changes to the LOS are expected at only three of the nine key intersections. At two of these intersections (the K-10 EB Ramps/Lexington Avenue intersection and the Lexington Avenue/95th Avenue intersection), the LOS will still be LOS C or better. Since LOS C operation is considered adequate by Johnson County, these two intersections are not anticipated to have congestion problems under the lower intensity development scenario. The K-10 WB Ramps/Lexington Avenue

EXHIBIT IV-9

TRIP GENERATION FOR DEVELOPMENT SCENARIOS FOR 2004*

Generator	Acres	Weekday ADT (veh/day)	AM Peak Hour (veh/hr)			PM Peak Hour (veh/hr)		
			Enter	Exit	Total	Enter	Exit	Total
Lower Intensity Development (LID):								
Limited Hwy. Commercial	10	2,805	41	27	68	118	127	245
Kansas State University	5	398	71	13	84	9	69	78
Business Park	15	2,247	241	42	283	51	202	253
LID Total	30	5,450	353	82	435	178	398	576
Higher Intensity Development (HID):								
Non-public entertainment land uses:								
Single-Family Residential	50	1,436	28	85	113	97	55	152
Limited Hwy. Commercial	25	7,011	103	66	169	293	318	611
Kansas State University	10	796	141	27	168	19	136	155
(Light) Industrial Space	3	156	19	4	23	5	17	22
Business Park	40	5,992	642	113	755	135	539	674
Subtotal	128	15,391	933	295	1,228	549	1,065	1,614
Public entertainment use:								
Employee and Service Traffic (1)	--	1,860	149	37	186	37	149	186
HID Subtotal	--	17,251	1,082	332	1,414	586	1,214	1,800
Public entertainment use:								
Visitor Traffic Only (2)	702	18,900	--	--	--	--	--	--

* Assumptions for acreages used in development scenarios are for new development. No new industrial acreage is projected under the lower intensity scenario.

- (1) A 10% peak hour factor for the employee and service traffic for the public entertainment use was assumed for both the AM and PM peak hour. For the AM peak hour, 80% entering and 20% exiting traffic was assumed. For the PM peak hour, 20% entering and 80% exiting traffic was assumed.
- (2) The visitor traffic for the public entertainment use is assumed to be using a direct road connection to K-10 that does not utilize any of the nine key intersections used for the traffic analysis. Therefore, AM and PM peak hour traffic estimates were not made for the public entertainment use visitor traffic.

Source: Dames & Moore/BRW, January 1999.

intersection is expected to go from LOS C to LOS E on the eastbound approach during the AM peak hour, from LOS C to LOS D on the westbound approach during the AM peak hour, and from LOS C to LOS D on the eastbound approach during the PM peak hour. The K-10 WB Ramps/Lexington Avenue intersection is the only intersection expected to need improvements under the lower intensity development scenario.